

1 Exam Prep

Roofing Practice Exam 10

1. Characteristics of modified polyurethane are all except?

- A Weather resistance
- B Color retention
- C High UV resistance
- D Fire resistance

2. The total squares of shingles required to roof the residence is _____

- A Less than 25
- B Between 25 and 26
- C Between 26 and 27
- D More than 27

3. Gutters are 3 inches high by 4 inches wide. The total square inches of surface area for one square foot of gutter is _____

- A Less than 125
- B Between 125 and 145
- C Between 145 and 165
- D More than 165

4. According to Roofing and Construction Estimating, valley flashing metal shall _____

- A Extend beyond the ridge
- B Extend 12 inches beyond the ridge
- C Extend 18 inches beyond the ridge
- D Extend 24 inches beyond the ridge

5. To construct an open valley, shingles at the upper end of an open valley should be _____ inches apart at the centerline.

- A 3
- B 6
- C 9
- D 12

6. Jimmy Joe is trimming the upper corner of shingles along the valley centerline at a 45 degree angle. The process of trimming the shingles is known as _____

- A Trimming the shingles
- B Dubbing
- C Cropping
- D Serration

7. The end lap when applying roll roofing parallel to the eaves using the concealed nail method should be how many inches?

- A 2
- B 4
- C 6
- D 8

8. Billy Ray is installing 24 inch tapersplit shakes. Billy Ray should use _____

- A Stainless steel 5d box nails 1 3/4 inches long
- B Blue 5d box nails 1 3/4 inches long
- C Steel wire 5d common nails 1 3/4 inches long
- D Bright 5d box nails 1 3/4 inches long

9. The reduced capacity of a multiple leg sling with a rated cap of 2,000 pounds at an angle of 45 degrees is how any pounds?

- A 1,414
- B 1,000
- C 1,932
- D 2,000

10. The length of eave for the residence is how many feet?

- A Less than 270
- B Between 270 and 280
- C Between 280 and 290
- D More than 290

11. The **total** length of hip and valley for the residence is how many feet?

- A Less than 151
- B Between 151 and 153
- C Between 153 and 155
- D More than 155

12. Downspouts for the house are 3 inches by 4 inches. The total square feet of surface area for one lineal foot of downspout is _____

- A 168
- B 14
- C 1.17
- D 1

13. Based on dew-point calculation and to limit possible condensation and premature degradation of materials, a designer should consider _____

- A Installing more than normal insulation
- B Provisions for a vapor retarder
- C An extra layer of hot mop or cold process depending upon the roof style
- D The use of a deck sealer

14. The slope of a woven valley should be limited to slopes of at least _____

- A 3 in 12
- B 4 in 12
- C 5 in 12
- D 6 in 12

15. The pounds of roofing nails required to shingle application of the residence is _____

- A Less than 20
- B Between 20 and 23
- C Between 23 and 26
- D More than 26

16. In single layer applications, all felts should be lapped _____

- A Vertically in shingle fashion a minimum of 2 inches
- B Horizontally in shingle fashion a minimum of 3 inches
- C Vertically in shingle fashion a minimum of 4 inches
- D Horizontally in shingle fashion a minimum of 2 inches

17. Type 1 low-softening point asphalt cement is governed by _____

- A ASTM D 312
- B ASTM D 4586
- C DBPR D 6977
- D ASTM D 3019

18. Scaffolding must be capable of supporting at least _____

- A The weight of the workers, materials, tools and scaffolding itself
- B 3 times the intended load
- C 4 times the weight of the workers and tools
- D 4 times the intended load

19. The copper gutter has a girth of 22 inches. The minimum strap size should be _____

- A 1/8 X 1
- B 1/4 X 1 1/2
- C 3/16 X 1
- D I/8 X 2

20. When installing gravel stops Bobby Ray should _____

- A Nail the gravel stop 4 inches on center
- B Prime the face side of the gravel stop
- C Prime both sides of the gravel stop on slopes of 1 in 12 or less
- D Prime both sides of the gravel stop on slopes of less than 1 in 12

21. Test cuts for **BUR** systems should be at least _____

- A 10 X 24 inches
- B 12 X 24 inches
- C 12 X 36 inches
- D 10 X 42 inches

22. Tapered rigid insulation usually comes in _____

- A 2 foot by 2 foot dimension with a taper across the 2 foot dimension
- B 2 foot widths with a taper across the 2 foot dimension
- C 2 foot lengths with a taper across the 2 foot dimension
- D 2 foot and even increments to ten feet

23. Jimmy Joe installed the insulation using dead-level asphalt. Jimmy Joe is going to apply an **EPDM** roof membrane system. Jimmy Joe should _____

- A Install a slip sheet between the membrane and the incompatible substrate
- B Know that is not a recommended roofing application
- C Never mix EPDM systems with any type of asphalt application
- D Insure the dead-level asphalt is completely dry before installing the EPDM roof membrane system

24. A slip sheet is going to be used. PVC is compatible with all of the following except _____

- A Bituminous material
- B Foamed glass insulation
- C Fully adhered modified bitumen
- D Polystyrene insulation

25. The minimum gage for galvanized metal used as an expansion joint is _____

- A 20
- B 22
- C 24
- D 26

26. The scupper is installed through a raised roof and will discharge into a conductor head and downspout. The conductor head should be _____ inches wider than the scupper.

- A 2
- B 4
- C 6
- D 8

27. According to Roofing and Construction Estimating, when installing a woven valley, the contractor should _____

- A Use double underlayment
- B Use 50 pound or heavier roll roofing
- C Overlap the shingles at least 36 inches
- D Nail the shingles 12 inches on center

28. According to Roofing and Construction Estimating, when installing a woven valley, the contractor should _____

- A Extend the shingle 36 inches beyond the centerline
- B Extend the shingle 12 inches beyond the hip line
- C Use double underlayment 30 pound felt or higher
- D Extend the shingle 12 inches beyond the valley centerline

29. When installing battens, the contractor can _____

- A Nail the battens every 4 feet on center
- B Use 4-foot long battens with 3/4 inch drain slots
- C Shim the battens every 4 feet with 1/2 inch moisture-resistant lath strips
- D Shim the battens every 4 feet with 1/4 inch moisture-resistant lath strips

30. When completing a T-lock shingle reroof, install the shingles _____

- A 1/4 inch higher than the old shingles
- B 1/4 inch lower than the old shingles
- C 1/2 inch higher than the old shingles
- D 1/2 inch lower than the old shingles

31. Valley lining material should be 26 gage zinc coated _____

- A G 30
- B G 60
- C G 90
- D G120

32. Roof tile is being installed in a valley using a two-ply underlayment system. Bobby Jo could use a _____

- A 24 inch by 16 inch stainless steel skirt at the end of the valley
- B 24 inch by 18 inch lead skirt at the end of the valley
- C 24 inch by 16 inch lead skirt at the top of the valley
- D 24 inch by 16 inch lead skirt at the end of the valley

33. The most common wood purlins used for corrugated steel panels are _____

- A 1 x 4's or 2 x 4's spaced 24 to 48 inch on center
- B 1 x 4's or 2 x 4's spaced 16 to 48 inch on center
- C 2 x 4's or 2 x 6's spaced 16 to 48 inch on center
- D 1 x 2's or 2 x 2's spaced 16 to 48 inch on center

34. The maximum slope of a BUR depends on _____

- A The interply, surface bitumen and the roofing surface
- B The slope, type of bitumen and the temperature
- C The temperature, type of bitumen, local codes and common roofing practices
- D The type of bitumen, roofing surface and insulation

35. According to Roofing and Construction Estimating, do not install pitch bitumen over roof slopes more than _____

- A 1/8 in 12
- B 14 in 12
- C 1/2 in 12
- D 1 in 12

36. According to Roofing and Construction Estimating, never install lightweight concrete decks on roofs with slopes greater than _____

- A 1/8 in 12
- B 1/4 in 12
- C 1/2 in 12
- D 1 in 12

37. The flash point of asphalt is _____

- A When yellow smoke is emitted from the kettle
- B The lowest temperature at which the asphalt gives off enough vapor to form an ignitable concentration
- C When the kettle man turns red and starts choking, coughing and gagging
- D When the kettle is opened too quickly thereby introducing excess oxygen to the surface of the asphalt

38. The minimum slope for asphalt built-up roofs is _____

- A Y8:12
- B 14:12
- C 1/2:12
- D 1:12

39. Towers and spires when enclosed shall have _____

- A Safety latches
- B Double sealed entry doors
- C Removable doors
- D Exterior walls

40. Cover all large cracks and resinous areas with _____

- A Sheet metal
- B 30 pound felt
- C 90 pound felt
- D 2 layers of 30 pound felt

41. Minimum illumination intensity for general construction areas is how many foot-candles?

- A 30
- B 7
- C 5
- D 3

42. Each employee on a scaffold more than _____ feet above a lower level must be protected from falling to that lower level.

- A 6
- B 8
- C 10
- D 12

43. Scaffolding cannot be moved with employees still on it unless the surface on which it is moving is within _____ degrees of level.

- A 2
- B 3
- C 4
- D 5

44. The maximum allowable slope (H:V) for **Type B** soil in excavations less than 20 feet deep is _____

- A 2:1
- B 1 1/2:1
- C 1:1
- D 3/4:1

45. For safety purposes, an employee must place a non-self-supporting ladder at such an angle that the horizontal distance from the top support to the foot of the ladder is approximately _____ of the working length of the ladder.

- A One-half
- B One-quarter
- C Thirty percent
- D Forty percent

46. Galvanized steel used to line valleys should be _____ gage.

- A 22
- B 24
- C 26
- D 28

47. Galvanized steel used to line valleys should be _____

- A At least 0.0150 inches thick
- B No more than 0.0150 inches thick
- C 26 gage, zinc coated G90
- D 28 gage, zinc coated G90

48. Eave drip edges must extend _____ inch below the sheathing.

- A 5/8
- B 1/2
- C 3/8
- D 1/4

49. Drip edge must be mechanically fastened a maximum of _____ inches on center.

- A 12
- B 10
- C 8
- D 6

50. Slate shingles can be used only on slopes of _____ or greater.

- A 3:12
- B 3 1/2:12
- C 4:12
- D 4 1/2:12

51. The minimum headlap for slate shingles applied to an 8:12 pitch roof is how many inches?

- A 2
- B 3
- C 4
- D 6

52. For 18-inch, No. 1 tapersawn shakes made of naturally durable wood, the allowable weather exposure for a 3:12 pitch roof is _____

- A 5 1/2
- B 7 1/2
- C 10
- D None, or "Not permitted"

53. Coal-tar, built-up roofs must have a design slope of at least how much for drainage?

- A 14:10
- B 1/2:10
- C 1/8:12
- D 1/2:12

54. Modified bitumen membrane roofs must have a minimum design slope of _____ for drainage.

- A 1/4:10
- B 1/2:10
- C 1/4:12
- D 1/2:12

55. Sprayed polyurethane foam roofs must have a minimum design slope of _____ for drainage.

- A 1/4:10
- B 1/2:10
- C 1/4:12
- D 1/2:12

56. A **Code** compliant, liquid-applied, protective coating must be applied following _____ the application of a sprayed polyurethane foam roof.

- A No less than two hours nor more than 72 hours
- B No less than one hour nor more than 72 hours
- C No less than two hours nor more than 48 hours
- D No less than one hour nor more than 48 hours

57. Enclosed towers and spires must _____

- A Be made entirely of noncombustible materials
- B Be of Type I or Type II construction
- C Have access doors
- D Have exterior walls as required for the buildings to which they are attached

58. Eave drip edges must extend back on the roof a _____ inches.

- A Maximum of 3
- B Maximum of 2
- C Minimum of 3
- D Minimum of 2

59. In a closed valley _____

- A The felt underlayment must be doubled in the valley area
- B Flash the valley with a 36 inch-wide layer of mineral or smooth surfaced roll roofing (50 pounds or heavier)
- C Metal flashing is the best choice
- D Do not use asphalt plastic cement

60. No fasteners may be used within how many inches of centerline when flashing a closed-cut valley?

- A 3
- B 4
- C 5
- D 6

61. Shingles must extend at least _____ inches on each side of a woven valley.

- A 6
- B 8
- C 10
- D 12

62. Woven valleys should only be used when the roof slope is _____ or steeper.

- A 2 in 10
- B 4 in 10
- C 3 in 12
- D 4 in 12

63. To install shingles in a woven valley _____

- A Trim the shingles two inches back from the valley centerline
- B The felt underlayment must be doubled in the valley area
- C Extend the shingles across the valley
- D Shingle end joints should be at least 12 inches from valley centerline

64. No fasteners may be used within _____ inches of centerline in a woven.

- A 6
- B 5
- C 4
- D 3

65. Use a _____ box nail to install a 24-inch tapersplit shake on a new roof.

- A 6d
- B 5d
- C 4d
- D 3d

66. Dead level asphalt or pitch can be heated safely to _____ degrees.

- A 400
- B 450
- C 475
- D 500

67. The slates are installed at the upper end of the valley to within two inches of each side of the valley centerline when installing a(n) _____ (slate) valley.

- A Canoe
- B Round
- C Closed
- D Open

68. Given four bundles of single-coursing No. 1 grade 16-inch wood shingles, the maximum recommended weather exposure for sidewall application is _____

- A 140 square feet applied at a 7-inch exposure
- B 150 square feet applied at a 7 1/2-inch exposure
- C 160 square feet applied at a 8-inch exposure
- D 170 square feet applied at a 8 1/2-inch exposure

69. Flat and steep asphalts can be heated safely to _____ degrees Fahrenheit.

- A 400 and 437
- B 437 and 450
- C 450 and 475
- D 475 and 500

70. Do not heat asphalt to within _____ degrees Fahrenheit of the flash point.

- A 50
- B 40
- C 35
- D 25

71. Mineral granules applied over mastic as roof surfacing should be deposited at the rate of _____ pounds per square.

- A 40 to 50
- B 50
- C 50 to 60
- D 60

72. Aluminum coating on a roof reduces the heat load by _____ percent, compared to dark-surfaced roofing.

- A 35
- B 40
- C 45
- D 50

73. Aluminum coating is applied at the rate of about _____ gallon(s) per square.

- A 1
- B 1 to 2
- C 2
- D 2 to 3

74. Aluminum coating can be _____ onto the roof surface.

- A Brushed
- B Cemented
- C Nailed
- D Rolled

75. When applying elastomeric roofing, brush-apply lap cement at the rate of one gallon per _____ linear feet for a three inch lap.

- A 175 to 225
- B 150 to 200
- C 125 to 175
- D 100 to 150

76. Before re-roofing, all large cracks, knotholes, loose knots and resinous areas in the deck should be?

- A Covered with sheet metal patches nailed to the deck
- B Filled and sealed
- C Cleaned out and sealed
- D Addressed

77. Type IV (special steep) asphalt softens at _____ degrees Fahrenheit.

- A 135 to 151
- B 158 to 176
- C 180 to 205
- D 205 to 225

78. A conductor head used to move water into a downspout should be at least how many inches wider overall than the scupper?

- A 4
- B 3
- C 2
- D 1

79. Horizontal cleats should be _____

- A Continuous
- B Lapped
- C "Short" (by SMACNA definition)
- D "Long" (by SMACNA definition)

80. Horizontal cleats should be in lengths _____

- A Of at least 2 feet with 1/2 inch clearance between the ends
- B Of at least 3 feet with 1/4 inch clearance between the ends
- C Not to exceed 10 feet with 1/2 inch clearance between the ends
- D Not to exceed 12 feet with 1/4 inch clearance between the ends

81. One type of joint approved for formed gravel-stop-fascia systems _____

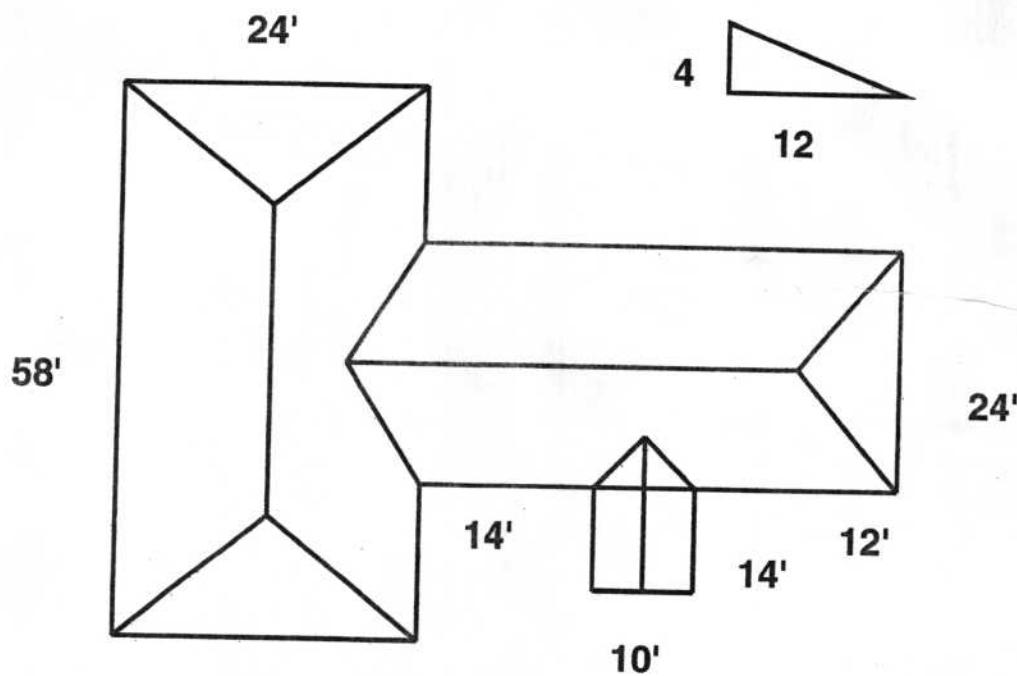
- A Involves welding
- B Uses a "lock-down" system
- C Is called the "combination joint"
- D Uses a cover plate

82. On shingle, slate or tile roofs, the edges of valleys should be formed with hook edges and cleated on _____ inch centers.

- A 24
- B 22
- C 20
- D 18

83. Given a 2 1/2 x 3 inch diameter downspout leader and a 7.50 inches squared cross sectional area, the downspout leader capacity should be _____

- A 30
- B 54
- C 92
- D 192



THE RESIDENCE

ANSWER KEY 10

1	C	NRCA Metal Panel and SPF Roof Systems, 2012	287
2	B	Walkers Building Estimators Reference	1087
3	A		
Width X Length = Square Inches			
		$3 + 3 + 4 \text{ } \mathbf{X} \text{ } 12 = 120$	
4	A	Roofing and Construction Estimating	69
5	B	Roofing and Construction Estimating	89
6	B	Roofing and Construction Estimating	89
7	C	Roofing and Construction Estimating	138
8	A	Roofing and Construction Estimating	167
9	A	Contractors Manual	7-91
10	A	Walkers Building Estimators Reference	1087

Flat Length: $(58 + 24 \mathbf{X} 2) + (14 + 10 + 12 + 12 + 14) + (14 \mathbf{X} 2)$

$$164 + 62 + 28 = \mathbf{M+}$$

Gable: $10 \mathbf{X} 1.054 = \underline{\mathbf{M+}}$

MR 264.54

11	C	Walkers Building Estimators Reference	1087
# X Common Run X Hip/Valley Factor = Length			

Hips: $6 \mathbf{X} 12 \mathbf{M+}$

Valleys: $2 \mathbf{X} 12 \mathbf{M+}$

$2 \mathbf{X} 5 \underline{\mathbf{M+}}$

$$\mathbf{MR} \text{ } \mathbf{X} \text{ } 1.453 = 154$$

OR TRY THIS

$$24 \mathbf{x} 4 + 10 \mathbf{x} 1.453 = 154$$

12	C	Width X Length \div 144 = Square feet
		$3 + 4 \mathbf{X} 2 \mathbf{X} 12 \div 144 = 1.17$

13	B	NRCA Membrane Roof Systems, 2011	38
14	A	Roofing and Construction Estimating	92

15	C	Walkers Building Estimators Reference	1088
16	D	Roofing and Construction Estimating	43

17	A	NRCA Membrane Roof Systems, 2011	80
18	D	OSHA	1926.451(a)(1)

19	B	SMACNA Architectural Sheet Metal Manual, 7 th Edition	1.34
20	D	Roofing and Construction Estimating	317
21	D	Roofing and Construction Estimating	327
22	B	Roofing and Construction Estimating	354
23	A	Roofing and Construction Estimating	339
24	C	Roofing and Construction Estimating	343
25	C	SMACNA Architectural Sheet Metal Manual, 7 th Edition	5.2
26	A	SMACNA Architectural Sheet Metal Manual, 7 th Edition	1.66
27	B	Roofing and Construction Estimating	67
28	D	Roofing and Construction Estimating	67
29	D	Roofing and Construction Estimating	200
30	D	Roofing and Construction Estimating	399
31	C	Florida Building Code, Building, 2010	Table 1503.2
32	D	Roofing and Construction Estimating	216
33	B	Roofing and Construction Estimating	256
34	A	Roofing and Construction Estimating	292
35	B	Roofing and Construction Estimating	292
36	D	Roofing and Construction Estimating	295
37	B	Roofing and Construction Estimating	304
38	B	Florida Building Code, Building, 2010	1507.10.1
39	D	Florida Building Code, Building, 2010	1509.5.2
40	A	Roofing and Construction Estimating	392
41	C	Code of Federal Regulations, (OSHA)	Table D-3
42	C	Code of Federal Regulations, (OSHA)	1926 .451(g)
43	B	Code of Federal Regulations, (OSHA)	1926.452(w)(6)(i)
44	C	Code of Federal Regulations, (OSHA)	Table B 1
45	B	Code of Federal Regulations, (OSHA)	1926.1053(b)(5)(i)
46	C	Florida Building Code, Building, 2010	Table 1503.2
47	C	Florida Building Code, Building, 2010	Table 1503.2
48	B	Florida Building Code, Building, 2010	1507.2.9.3
49	A	Florida Building Code, Building, 2010	1507.2.9.3
50	C	Florida Building Code, Building, 2010	1507.7.2
51	B	Florida Building Code, Building, 2010	Table 1507.7.6

52	D	Florida Building Code, Building, 2010	Table 1507.9.8
53	C	Florida Building Code, Building, 2010	1507.10.1
54	C	Florida Building Code, Building, 2010	1507.11.1
55	C	Florida Building Code, Building, 2010	1507.14.1
56	A	Florida Building Code, Building, 2010	1507.14.3
57	D	Florida Building Code, Building, 2010	1509.5.2
58	D	Florida Building Code, Building, 2010	1507.2.9.3
59	B	Roofing Construction and Estimating	67
60	D	Roofing Construction and Estimating	67
61	D	Roofing Construction and Estimating	92
62	C	Roofing Construction and Estimating	92
63	C	Roofing Construction and Estimating	92
64	A	Roofing Construction and Estimating	92
65	B	Roofing Construction and Estimating	167
66	A	Roofing Construction and Estimating	304
67	D	Roofing Construction and Estimating	242
68	B	Roofing Construction and Estimating	176
69	C	Roofing Construction and Estimating	304
70	D	Roofing Construction and Estimating	304
71	C	Roofing Construction and Estimating	308
72	C	Roofing Construction and Estimating	310
73	B	Roofing Construction and Estimating	310
74	A	Roofing Construction and Estimating	310
75	B	Roofing Construction and Estimating	341
76	A	Roofing Construction and Estimating	392
77	D	Roofing Construction and Estimating	304
78	C	SMACNA Architectural Sheet Metal Manual, 7 th Edition	1.62
79	A	SMACNA Architectural Sheet Metal Manual, 7 th Edition	2.2
80	D	SMACNA Architectural Sheet Metal Manual, 7 th Edition	2.2
81	D	SMACNA Architectural Sheet Metal Manual, 7 th Edition	2.8
82	A	SMACNA Architectural Sheet Metal Manual, 7 th Edition	4.18
83	C	SMACNA Architectural Sheet Metal Manual, 7 th Edition	G.4